



NATIONAL INSTITUTE OF TECHNOLOGY, JAMSHEDPUR

(Deemed University)
Jamshedpur 831 014

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BID REFERENCE : NITJSR/DST_PROJ/MET/01/2008

To

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Dear Sir,

Sub: **INVITATION FOR QUOTATIONS FOR SUPPLY OF DATA LOGGER WITH PROCESSOR AND HORIZONTAL TUBE FURNACE UNDER DST PROJECT entitled "Investigations on the Thermo-chemistry of the Interaction of Chromite Spinels and Ores With Alkaline Earth Oxides and Silica Under Different Conditions"**.

1. You are invited to submit your most competitive quotation for the equipments as per **Annexure-A**
2. National Institute of Technology Jamshedpur has received a grant from Department of Science and Technology, Government of India, New Delhi towards the cost of the Project titled "**Investigations on the Thermo-chemistry of the Interaction of Chromite Spinels and Ores With Alkaline Earth Oxides and Silica Under Different Conditions**" and intends to apply part of the proceeds of this grant to eligible payments under the contract for which this invitation for quotations is issued.
3. **Bid Price**
 - a) The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
 - b) All duties, taxes and other levies payable by the contractor under the contract shall be included in the total price.
 - c) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
 - d) The prices should be quoted in **Indian Rupees** only.
 - e) The rates quoted shall be on FOR NIT Jamshedpur basis.
4. Each bidder shall submit only one quotation. Manufacturer/authorized dealers of reputed brands of high technical quality with adequate after-sales support facilities are eligible to apply. The bidder must have supplied similar good to reputed organization to their full satisfaction and furnish a list of the same.
5. The bid submitted by the bidder must comprise the following:
 - (a) Detailed technical specifications and literature/drawings/manuals of the goods/services to be supplied
 - (b) Authorized dealership certificate from the original manufacturer
 - (c) Credentials and list of organizations (at least two Academic Institutions) where the bidder supplied similar items
 - (d) Warranty period (comprehensive on-site)
 - (e) Valid sales-tax and income tax clearance certificate
 - (f) Price bid (vide **Annexure B**)
6. **Validity of Quotation**
Quotation shall remain valid for a period not less than 90 days after the deadline date specified for submission.
7. **Evaluation of Quotations**
The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which
 - (a) are properly signed and
 - (b) conform to the terms and conditions, and specifications.

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The Quotations would be evaluated separately for each item.

8. **Award of contract**

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

- 8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.
- 8.2 The bidder whose bid is accepted will be notified of *the award of contract* by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
9. Payment shall be made by crossed account payee cheque within 45 days after satisfactory installation, commissioning, satisfactory performance and acceptance of the goods.
10. Normal commercial warranty shall be applicable to the supplied goods for a period of **36 months** from the date of acceptance.
11. Sales Tax, if applicable, should be charged @ 4% against 'D' form.
12. Liquidated Damages: If a firm accepts an order and fails to execute the order in full or part, as per terms and conditions stipulated therein, it will be open to this institute to recover liquidated damages from the firm at the rate of 1% of the value of the undelivered stores per month or part thereof, subject to a maximum of 5% of the value of the undelivered store. It will also be open to this Institute alternatively to arrange procurement of the required store from any other source at the risk and expense of the firm which accepted and then failed to execute the order according to stipulation which accepted and the on failed to agreed upon.
13. The successful bidder must submit before the release of payment a valid bank guarantee on any nationalized bank of 5% of the order value towards Performance Security during the warranty period.
14. Settlement of any dispute will be made under the jurisdiction of Jamshedpur Court.
15. **Submission of Quotation:** All quotations must be forwarded in sealed cover address to The Project investigator cum Chairman Purchase Committee of DST project, Department of **Metallurgical & Materials Engineering** N.I.T., Jamshedpur – 831 014 so as to reach within the specified period. The reference to the Enquiry Number and the last date for submission must clearly be superscribed on the sealed envelope.
- To ensure receipt of quotations in time intending suppliers are advised to mail them seven clear days in advance.
15. You are requested to provide your offer latest by **14:30 hours** on 18.11.08
16. The purchaser will open the bids at **15:30 hours** on 19.11.08 in the Department of **Metallurgical & Materials Engineering** N.I.T., Jamshedpur
17. We look forward to receiving your quotations and thank you for your interest in this project.

Project Investigator
DST Project
Metallurgical & Materials Engineering
Department
NIT, Jamshedpur – 831014

The bid must be addressed to:
Project Investigator Cum Chairman
Purchase Committee, DST Project,
Department of Metallurgical & Material Engineering
NIT, Jamshedpur – 831 014

Sl.No	Brief Description of the Goods	Specifications	Quantity
Met_P 1	Data Logger with processor	No. of channels: 24, Range: 0-999.9 mVolts, Resulation; 0.1 mV, Scan rate: 30 sec. to 99 min., Display: 4 digits for mV, 4 digits for time, 2 digits for chanel, (Or LCD display), Output: RS 232C, Power: 230 Volts A.C.	1
Met_P 2	High temperature Horizontal Tube Furnace	<ol style="list-style-type: none"> 1. Max temp: 1400°C inside the working zone of the furnace, 2. It must be posible to operate the furnace continuously at least for 48 hours at 1200°C or less and at least 12 hours at higher temperatures. 3. The minimum heating rate required is 5°C per minute 4. Length of the tube 700mm, the tube of the furnace must be made of high purity (minimum 99.9%Al₂O₃) recrystalized alumina. 5. Working length of the furnace minimum 50mm. 6. Temperature should be controlled throug out the working length of the furnace within ± 2°C up to 1200°C and within ± 5°C above this temperature 7. The temperature inside the furnace must be contrlled with a thyristor-based, programable, PID controller. The controller have at least 16 segments and must be activated by a controlling thermo couple. 8. Controller and other gadgets must be mountedv on a separate panel. 9. One thermo couple (type R) is required for controlling the temperature and must be ploted near the heating elements, however ensuring that the desired temperature is reached in side the furnace. 10. The average expected load for heating the experimental samples is 7.5kW. 11. The controller must be connected to personal computer for data acquisition with suitable communication facility. 12. A personal computer as per specifications in annexure A, has to be provided for data acuisition. 13. All measurments such as voltage, current and temperature must be displayed on panels, digitally. 14. It must be possible to operate the furnace maintaining a reducing atmosphere (using hydrogen or carbon-monoxide or LPG or natural gas) or an inert atmosphere (using argon nitrogen) or oxidizing atmosphere (carbon-di-oxide or oxygen) in the working chamber. 15. Safety fuse for over-load protection of the furnace to be provided. 16. Safety interlocks with audible alarm for low water pressure in cooling circuits; excess temperature; gas over-presure; gas leakage to be provided. 17. Thermo-couple damage/defect indication with tripping to be provided. 18. Soft start and stop facility suitable for heating elements to be provided. 19. Gas flow high pressure safety valve and over-temperature safety controller to be provided. 20. Provision for alarm when water flow through the flanges is stopped. 21. Provision for earthing the body of the furnace should be provided. 22. External surface temperature not to exceed 70°C 23. List of essential spares with names and address of suppliers to be provided. 24. All flanges and joints must be leak-proof. 25. All piping must be of flexible material. 26. All sensors and measuring instruments must be caliberated by well-recognised caliberating agencies and calibration certificates for the same must be provided. 27. Manuals for maintenance and operation of the furnace must be provided. 28. Circuit diagrams for electronic equipment and piping must be provided. 29. Comprehensive waranty at least for a period of one year must be 	1

		<p>provided for the furnace, including heating elements, sensors, gadgets.</p> <p>30. Requirements at the site of installation of the furnace to be intimated. The institute will provide one source of power (30 Amp. Max) and one source of water supply.</p> <p>31. The furnace must be installed, commissioned and at least three trial operations satisfactorily demonstrated at the site.</p> <p>32. Optional:</p> <p>(a) One set of spare heating elements, thermo-couple (R-type), O-rings to be Provided</p> <p>(b) The furnace must be mounted on a stable platform at a comfortable working level and the whole frame must be mobile (castors).</p>	
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Delivery Period: 15 days from the date of placement of Purchase order

Place of Delivery: Department of **Metallurgical Engineering & Material Science Department** at NIT, Jamshedpur

Installation/commissioning/demonstration requirement, if any:

Training / Operating and experimental manual bard copy to be provided.

Installation and commissioning: At **Metallurgical Engineering & Material Science Department, NIT Jamshedpur.**

The supplier will have to supply all the components other than the available facilities at site as mentioned above required to carry out the experiment with the said objectives. All piping, fittings and mounting must be supplied.

The set-up must be fully installed and commissioned by the supplier and the results of experiments be demonstrated to the satisfaction of NIT Jamshedpur.

PRICE BID

ANNEXURE-B

1 Sl. No.	2 Description of Goods	3 Country of Origin	4 Quantity & unit	5 Price for each unit					6 Unit Price (a)+(b) + (c)+(d) +(e)	7 Sales & Other taxes payable [admissible only on col.5(a)]	8 Total Unit Price (6)+(7)
				Ex-factory/ exwarehouse / exshowroom of the shelf (a)	Excise duty if any (b)	Packing and forwarding (c)	Inland Transportation Insurance & other local costs incidental to Delivery (d)	Incidental services (e)			

We agree to supply the above goods in accordance with the technical specifications and the terms and conditions mentioned in the bid document at prices mentioned above within the period specified in the Invitation for Quotations.

We also confirm that the normal commercial warranty of **36 months** shall apply to the offered goods.

Signature of Bidder

Name

Business Address

Place :

Date :